

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of:)	
)	
Amendment of Part 101 of the)	
Commission's Rules to Facilitate the Use of)	
Microwave for Wireless Backhaul and)	WT Docket No. 10-153
Other Uses and to Provide Additional)	
Flexibility to Broadcast Auxiliary Service)	
and Operational Fixed Microwave)	
Licensees)	
)	
Request for Interpretation of Section)	WT Docket No. 09-106
101.141(a)(3) of the Commission's Rules)	
Filed by Alcatel-Lucent, Inc., <i>et al.</i>)	
)	
)	
Petition for Declaratory Ruling Filed by)	WT Docket No. 07-121
Wireless Strategies, Inc.)	
)	
Request for Temporary Waiver of Section)	
101.141(a)(3) of the Commission's Rules)	
Filed by Fixed Wireless Communications)	
Coalition)	

COMMENTS OF SIRIUS XM RADIO INC.

I. INTRODUCTION.

Sirius XM Radio Inc. ("Sirius XM") hereby submits these comments in response to the Commission's *Notice of Proposed Rulemaking and Notice of Inquiry* seeking to remove regulatory barriers to the expanded use of spectrum for wireless backhaul and other fixed services.¹ Sirius XM limits its comments to two discrete points. First, the Commission must ensure that any action it takes to expand use of the 6875-7125 MHz and 12700-13200 MHz band

¹ See Amendment of Part 101 of the Commission's Rules to Facilitate the Use of Microwave for Wireless Backhaul and Other Uses and to Provide Additional Flexibility to Broadcast Auxiliary Service and Operational Fixed Microwave Licensees, WT Docket No. 10-153, *Notice of Proposed Rulemaking and Notice of Inquiry*, 25 FCC Red 11246 (2010) ("*NPRM & NOP*").

by Part 101 microwave services provides appropriate protection to co-primary satellite operations in those bands, including Sirius XM's own feeder link operations conducted in the 6875-7125 MHz band. Second, should the Commission look to expand the spectrum available to satisfy the need for wireless backhaul and related fixed services, it should focus on the underutilized 2.3 GHz Wireless Communications Services ("WCS") band for these purposes.

II. THE COMMISSION MUST PROVIDE APPROPRIATE PROTECTIONS FOR FIXED SATELLITE SERVICE OPERATIONS IN THE 6875-7125 MHZ AND 12700-13200 MHZ BANDS.

Before making additional spectrum available for microwave backhaul operations in the 6875-7125 MHz and 12700-13200 MHz bands, the Commission must provide sufficient coordination procedures and interference protections for existing Fixed Satellite Services ("FSS") operations licensed on a primary basis in the same spectrum.

In the *NPRM*, the Commission proposes to permit Fixed Services ("FS") operations in the 6875-7125 MHz and 12700-13200 MHz bands through spectrum sharing with the Broadcast Auxiliary Service ("BAS") and Cable TV Relay Service ("CARS").² However, portions of the CARS and BAS bands that the Commission identified are also allocated on a co-primary basis for Earth-to-space fixed satellite operations and any action the Commission takes in this proceeding must ensure adequate protections for incumbent FSS licensees.³ Sirius XM is authorized to operate feeder links in the 6875-7125 MHz band, which it uses to uplink its digital radio transmissions to its satellites for retransmission to its over 35 million listeners.⁴ Duly

² *NPRM & NOI* at 11253-54 ¶¶ 15-16.

³ See 47 C.F.R. § 2.106 (showing "FIXED-SATELLITE (Earth-to-space)" allocations at 6875-7025 MHz, 7025-7075 MHz, 12.7-12.75 GHz, and 12.75-13.25 GHz).

⁴ See, e.g., *Sirius Satellite Radio Inc., Application for Authority to Launch and Operate SIRIUS FM-5, a Geostationary Satellite, to Provide Satellite Digital Audio Radio Services*, IBFS File No. SAT-LOA-20060901-00096 (stamp grant April 16, 2007) (authorizing Earth-to-space communications with the SIRIUS FM-5 satellite at 7050.5-7072.5 MHz), *XM Radio Inc.*,

licensed FSS operations in these bands are entitled to full interference protection and the Commission should ensure that new microwave operations do not threaten these incumbents or the services they provide.

By failing to consider these incumbent satellite operations, the Commission created ambiguity, to the extent the *NPRM & NOI* recognizes elsewhere that Part 101 operations successfully share spectrum with Part 25 satellite operations in other frequency bands.⁵ Sirius XM is confident that through appropriate frequency coordination, the new Part 101 operations can share this band with incumbent Part 25 licensees without any increase in harmful interference. However, the Commission should clearly reaffirm the co-primary status of FSS operations in these frequencies and, at minimum, apply the existing Parts 25 and 101 frequency coordination rules to these circumstances.⁶

III. THE COMMISSION SHOULD PROMOTE THE USE OF THE 2.3 GHZ WCS BAND FOR WIRELESS BACKHAUL.

In addition to the proposals contained in the *NPRM & NOI*,⁷ the Commission should encourage use of the 2.3 GHz WCS band for wireless backhaul operations, which would provide a valuable use for this long-underutilized spectrum while furthering important Commission goals by providing needed infrastructure for mobile broadband applications. Such use of WCS spectrum would also be consistent with the interference protection needs of adjacent licensees.

Application for Authority to Launch and Operate XM-5, IBFS File No. SAT-LOA-20090217-00025 (stamp grant Aug. 31, 2009) (authorizing Earth-to-space communications with the XM-5 satellite at 7025-7075 MHz).

⁵ See *NPRM & NOI* at 11250 ¶ 8.

⁶ See, e.g., 47 C.F.R. §§ 25.203, 101.103.

⁷ In the Notice of Inquiry portion of the *NPRM & NOI*, the Commission solicits suggestions as to “any additional modifications to the Part 101 rules, or other policies or regulations, to promote flexible, efficient and cost-effective provisions of wireless backhaul service. *NPRM & NOI* at 11272-73 ¶ 65.

Sirius XM has previously observed⁸ that the 2.3 GHz WCS spectrum is ideally-suited for wireless backhaul use and such operations would present substantially fewer concerns about harmful interference to adjacent licensees than the mobile operations currently being focused on for this spectrum.⁹

The 2.3 GHz WCS band is particularly well suited for fixed wireless uses, such as for the provision of backhaul services. The WCS spectrum is at a relatively low frequency, which would facilitate high bit rate transmissions over large distances at relatively low power when compared to some higher-frequency spectrum bands currently used for similar purposes. The 30 MHz of available WCS spectrum provides sufficient bandwidth for multiple licensees to deploy robust wireless backhaul networks. These uses of this spectrum would be both effective and efficient from cost and technology perspectives. Numerous WCS licensees have already said that they are deploying point-to-point backhaul links to Wi-Fi access points or are using WCS spectrum for other fixed operations.¹⁰

⁸ See, e.g., Comments of Sirius XM Radio Inc., WT Docket No. 07-293, IB Docket No. 95-91 at 7 (filed Apr. 23, 2010); Letter from Robert Pettit, Counsel to Sirius XM Radio Inc., to Marlene Dortch, Secretary, Federal Communications Commission, WT Docket No. 07-293, IB Docket No. 95-91, Attachment at Slide 6 (filed Jan. 22, 2010); Letter from Terrence Smith and James Blitz, Sirius XM Radio Inc., to Ronald Repasi, Deputy Chief, Office of Engineering and Technology at 2-4 (filed Jan. 4, 2010); Reply Comments of Sirius Satellite Radio, WT Docket No. 07-293, IB Docket No. 95-91 at 6-7 (filed Mar. 17, 2008).

⁹ See, generally, Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, WT Docket No. 07-293, *Report and Order*, Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, IB Docket No. 95-91, *Second Report and Order*, 25 FCC Rcd 11710 (2010) (significantly changing the Part 27 service rules to allow mobile services in the WCS band) ("*WCS-Satellite Radio Second Report and Order*").

¹⁰ See, e.g., ULS Application No. 0003107370 (construction notification and "substantial service" showing filed by Comcast WCS ME16, Inc.); Petition for Partial Reconsideration of AT&T Inc., WT Docket No. 07-93, IB Docket No. 95-91 at 23 (filed Sept. 1, 2010) (discussing AT&T's use of WCS spectrum for fixed residential broadband services in Alaska); Amy Schatz, *Satellite Radio Resists FCC Airwave Proposal*, Wall St. J., May 3, 2010 (stating AT&T currently uses the WCS spectrum for fixed point to point backhaul).

Use of the WCS band for wireless backhaul deployment would also have the significant benefit of reducing concerns about harmful interference to services adjacent to the WCS band. Because wireless backhaul operations are provided in fixed point-to-point configurations, they offer much more predictable and manageable interference challenges for adjacent satellite radio and aeronautical mobile telemetry (“AMT”) operations. Indeed, as made clear in the Oppositions to Petitions for Reconsideration recently filed by the Boeing Company and the Aerospace and Flight Test Radio Coordinating Council (“AFTRCC”) in Docket 07-293, base and fixed operations raise far fewer coordination issues than mobile operations, which present nearly insurmountable challenges.¹¹

The Commission should consider what steps it could take to promote use of the WCS band for this purpose. For example, the Commission should consider whether relaxing the recently-adopted WCS construction requirements for fixed point-to-point deployments might create additional incentives for licensees to commit to these uses.¹² This step, and any others that might encourage licensees to deploy wireless backhaul solutions over the WCS band, would have the dual benefits of furthering the Commission’s important broadband goals while also ensuring continued protection to AMT and satellite radio consumers.

IV. CONCLUSION.

For the foregoing reasons, Sirius XM respectfully requests that the Commission clarify the protected status of co-primary FSS operations in the bands to be opened up for Part 101 service sharing. Moreover, Sirius XM recommends that the Commission implement steps to

¹¹ See *Opposition of the Boeing Company*, WT Docket No. 07-293, IB Docket No. 95-91 at 8-9 (filed Oct. 18, 2010); *Opposition to Petitions for Reconsideration of AFTRCC*, WT Docket No. 07-293, IB Docket No. 95-91 at 8-9 (filed Oct. 18, 2010).

¹² See *WCS-Satellite Radio Second Report and Order*, 25 FCC Rcd at 11842-44 (adopting new Section 27.14 to the Commission’s rules).

encourage the dedication of the 2.3 GHz WCS band to wireless backhaul uses, providing necessary infrastructure and links for the growing demand for mobile broadband applications.

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